

are reserved for further study, and if satisfactory results shall have been attained, they will be treated of in a later paper. The nearly simultaneous observation of this species in three distinct localities, and its abundance in each, indicates that it is probably not uncommon, and excites surprise that it does not appear to have been previously noticed.—*Proc. Acad. Nat. Sci. Philad.*, Aug. 5, 1884, p. 213.

*On a new Insect of the Genus Phylloxera (Phylloxera salicis, Licht.).* By M. J. LICHTENSTEIN.

I had for some time observed the presence, upon the bark of willows in my garden, of a sort of snow-white mould, like the cottony secretions of many Coccidina. By splitting a piece of bark I discovered a dried-up skin, which I softened in caustic potash, and which, under the microscope, showed the form of a *Phylloxera*. It is an insect 0·67 millim. long, with antennæ of three joints and a very long rostrum, reaching considerably beyond the abdomen.

By examining the bark I succeeded in finding in the same fissure some small ovoid envelopes of two different dimensions, some being 0·36 and others 0·25 millim., nearly colourless and looking like eggs. It was evident to me that I had not to do with true eggs, but with what I have called *sexual pupæ*. I then placed these little envelopes in a tube and examined them daily.

I first saw these little pupæ raise themselves upon the posterior extremity and begin to grow, escaping from a very fine pellicle, which, as it were, formed a stalk for them. About the fourth or fifth day I began to distinguish two little black eyes; then small and excessively short feet, and antennæ, still shorter, forming only a little three-jointed stump. For eight or ten days I was able to follow the development of this microscopic germ, balancing itself in its silky calyx and constantly rising.

Finally the evolution was completed, and, like ripe seeds, the sexual insects, male and female, dropped on to the cork of the little tube containing them, and copulation took place. The male dies soon afterwards. The female then deposits an enormous light yellow egg, nearly as large as herself, and I submitted the two sexes to the microscope.

As I had foreseen, these were really sexual insects, presenting all the characters of the *Phylloxera*. The rostrum is completely deficient, the limbs are nearly rudimentary, especially the antennæ, which are reduced to a very short knob.

The *mould* upon the willow is nothing but an accumulation of the cast envelopes of these pupæ, which escape in so singular a fashion from their long pellicle.

I do not know that I shall succeed in tracing the further evolution of this insect, but I can not understand, considering its abundance, how it has hitherto escaped observation. I shall call it *Phylloxera salicis*. It will fall within the group of those in which the *pupiferous* form is apterous. I shall endeavour in the spring to complete its history.—*Comptes Rendus*, October 13, 1884, p. 616.